[SET NO. II] LABORATORY FAT EXAMINATION – SLOT L53+L54

Total Marks: 60 & Time Limit: 80 Minutes

Instructions:

i) This is a closed book examination. No mobiles or other computing devices allowed. If any mobile or computing devices found, 15 marks will be penalized.

ii) Answer the Question Number 1 within 25 Minutes. Copy the Parsing Table in the Back Side of the Question Paper. Open the Desktop Computer. Start Answering Question Number 2.

iii) No additional sheets can be provided. So, you have to answer Question Number 1 within the booklet page limit.

iv) After you complete writing the code for Question Number 2 (Time Limit 45 Minutes), you have to upload the docx file containing the code and the screenshots to the Assignment Number 6 titled 'FAT ANSWER'.

Q1) Compute using pen and paper the LR (1) Parsing Table for the following grammar (already augmented):

$S \rightarrow X$

$X \rightarrow Y + X$

$X \rightarrow Y * X$

$X \rightarrow Y$

$Y \rightarrow Z$

$Y \rightarrow$ int

$Z \rightarrow$ double

You must show the step-by-step calculation process in the booklet provided [***S, X, Y, Z are the non-terminal symbols***].

Q2) Write a C/C++ code that will take a string as an input, and perform LR (1) parsing based on the parse table that you found out in Question Number 1. You can hardcode the parse table into your C/C++ code. The output you need to show is the Trace Table in the following format:

Trace			
Step	Stack	Input	Action
1	0	a a a a a b $	s4
2	0 a 4	a a a a b $	s4
3	0 a 4 a 4	a a a b $	s4

Create a docx file that contains the code in text format (NOT IMAGE FILE), and the screenshots of the Trace Table for the following inputs: i) **int * double * int**, and ii) **int * int * int + double**. Upload the docx file to the LAB Assignment Number 6 titled 'FAT ANSWER'.